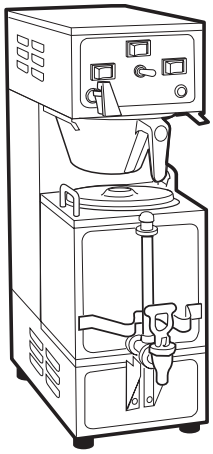
WILBUR CURTIS COMPANY, INC.

Service Manual – GEM-120A Satellite Brewer



Model:

- GEM-120A

CAUTION: Equipment must be installed to comply with applicable federal, state, and local plumbing/electrical codes.

CAUTION: Follow this setup procedure before attempting to use this unit. Failure to follow these instructions can result in injury and/or void of warranty.

CAUTION: DO NOT connect the unit to hot water supply. The inlet valve is not rated for hot water.

ISO 9001:2008 REGISTERED

WILBUR CURTIS CO., INC.
6913 West Acco Street
Montebello, CA 90640-5403
For the latest information go to
www.wilburcurtis.com
Tel: 800-421-6150
Fax: 323-837-2410

Important Safeguards/Symbols

This equipment is designed for commercial use. Any servicing other than cleaning and routine maintenance should be performed by an authorized Wilbur Curtis Company Service Technician.

- DO NOT immerse the unit in water or any other liquid
- To reduce the risk of fire or electric shock, DO NOT open service panels. There are no user serviceable parts inside.
- Keep hands and other items away from hot areas of the unit during operation.
- Never clean with scouring powders or harsh chemicals.

Symbols:

WARNINGS – To help avoid personal injury

Important Notes/Cautions – from the factory

Sanitation Requirements

INSTALLATION

This Curtis unit is pre-set and ready to go from the factory.

Factory settings for this unit are:

- Brew Temperature = 200°F
- Brew Volume = Set to vessel requirements (1 Gallon).

System Requirements:

- Water Supply 20 – 90 PSI (minimum flow rate of 1 gpm)
- Electrical: See electrical schematic.

SETUP STEPS

1. The unit should be level (left to right - front to back), on a secure surface.
2. Connect the water line to the water inlet fitting on the rear of the unit. Water volume flow to the machine should be consistent. Use tubing sized sufficiently to provide a minimum flow rate of one gallon per minute.

NOTE: A water filtration system must be used to help maintain trouble-free operation. In areas with extremely hard water, we highly recommend the use of a Curtis approved water filter. For our full line of filters, please log on to www.wilburcurtis.com. A water filtration system will greatly prolong the life of the unit and enhance the quality and taste of the product.

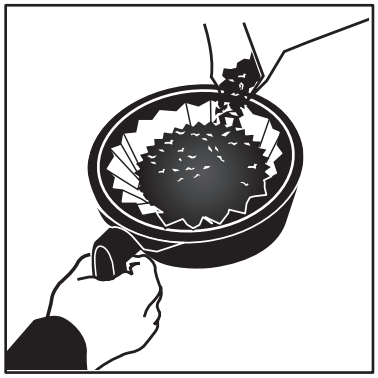
NSF International requires the following water connection:

1. *A quick disconnect or additional coiled tubing (at least 2x the depth of the unit) is required so that the unit can be moved for cleaning.*
2. *This unit must be installed with adequate backflow protection to comply with applicable federal, state and local codes.*
3. *Water pipe connections and fixtures directly connected to a portable water supply shall be sized, installed and maintained in accordance with federal, state, and local codes.*

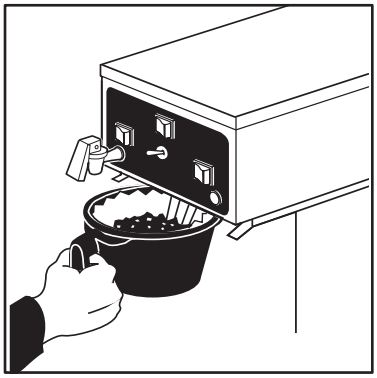
3. Connect the unit to electrical outlet with appropriate amperage rating (see serial tag on machine).
4. Once power has been supplied to the unit, flip the toggle switch to the 'ON' position (located on the rear of the unit), the water tank will begin to fill. When the water level in the tank reaches the probe, the heating element(s) will turn on.
5. Water in the heating tank will require approximately a half hour before reaching operating temperature (factory setting of 200°F). When the water temperature in the heating tank is ready, the green "BREW WHEN LIT" light will come on.

BREWING

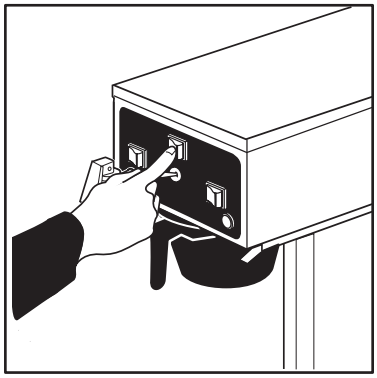
1. Brewer should be ON (Confirm at rear toggle switch, then press the ON/OFF button). The Brew When Lit light should be on.
2. Place an empty Satellite under the brewcone and press the warmer switch to pre-heat the Satellite.
3. Place a clean filter into the brewcone.



4. Fill the brewcone with the correct amount of ground coffee.



5. Transfer the brew cone to brewer, inserting it into the brew cone rails.



6. Determine ihe brew volume and flip the toggle switch to desired size, ½ gallon (**1**) or 1 gallon (**2**).
   Press the brew button.
   Brewing will begin immediately.

WARNING: AVOID SCALDING Do not remove the brew cone while the brew light is flashing.

CLEANING

Regular cleaning and preventive maintenance is essential in keeping your coffee brewer looking and working like new. To clean the coffee brewer and components, prepare a mild solution of detergent and warm water.

CAUTION – Do not use cleansers, bleach liquids, powders or any other substance containing chlorine. These products promote corrosion and will pit the stainless steel. USE OF THESE PRODUCTS WILL VOID THE WARRANTY.

DAILY CLEANING

1. Wipe exterior surfaces with a damp cloth, removing spills and debris.
2. Slide the brewcone out and clean it. Wipe the sprayhead area with a cloth soaked in a mild detergent solution.
3. Rinse and dry the brewcone and sprayhead area.
4. Drain drip trays of coffee.
5. Dry the tray.

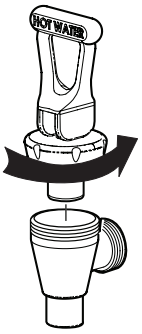
WEEKLY CLEANING

1. Turn off unit at the power switch, behind the unit. Allow the brewer to cool.
2. Clean the sprayhead and dome plate area.
   a. Remove the sprayhead, unscrewing counterclockwise from the dome plate.
   b. Thoroughly clean and rinse the dome plate area.
   c. Clean the brewcone rails with a brush soaked with a mild detergent solution. Rinse the area with a cloth soaked with clean water, removing any residual detergent.
   d. Dry the area.
   c. Attach the sprayhead.

Cleaning the Satellite Server

1. Empty any remaining coffee from the Satellite server.
2. Fill the liner with a mild detergent solution and let it stand for 10 to 15 minutes.
3. After about 15 minutes take a sponge brush and scrub out the stainless steel liner.
4. Drain out the detergent solution from the server. Rinse in a sink with running water.
5. Repeat this rinsing until the water runs clear.

CLEANING THE FAUCET



1. Remove the faucet handle assembly. Take hold of the bonnet and turn counterclockwise to unscrew it from the faucet.
2. Clean the handle assembly with a mild detergent solution. When clean, rinse the handle with water. Inspect for cracks or tears in the seat cup. Replace if the seat cup damaged.

3. Clean the coffee level gauge glass.

   a. Remove the gauge glass cap unscrewing it from the top of the shield.

   b. Carefully, pull out the gauge glass. Brush out the inside of the glass with a detergent solution. Rinse the sight glass tube of all detergent residue.

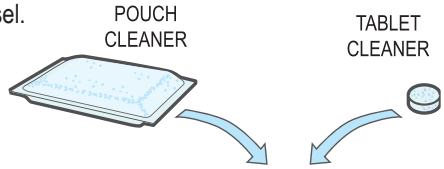
   c. Inspect the gasket seals at the top and bottom of the gauge glass. Clean these gaskets.

   d. Assemble the gauge glass. Make sure gaskets are properly seated.

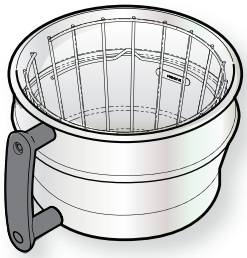
   e. Hand tighten the gauge glass cap.

Pouch Cleaner

You may use a pouch or tablet cleaner to easily clean both the brew cone and the coffee vessel.



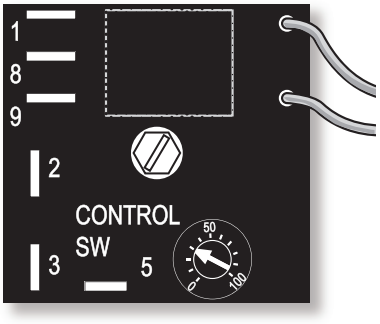
1. Place a pouch or tablet cleaner into the brew cone. Place an empty server on the brew deck.
2. Press the brew button to run a full brew cycle into the server. You will see that the cleaner pouring from the brew cone is blue.
3. At the end of the brew cycle, discard the used filter cleaner pouch. The tablets should have disolved in the brew cycle.
4. Allow the cleaner to soak in the coffee server for a few minutes.
5. Dump out the cleaner from the coffee server into a sink. You can simply open the faucet and let the blue cleaning solution to flow out.
6. Return the empty coffee server to the brew deck. Install the brew cone onto the brewer. Run another brew cycle of hot water to rinse the brew cone and into the server.
7. Empty the rinse water from the coffee server. Repeat the rinse cycle before putting the coffee server back into service.



SETTING THE WC-603-101 BREW TIMER

Adjustment of the timer is made on a calibrated dial with a range from 0 to 100. This is a range of 2 to 20 minutes. The front control panel has a brew selector switch marked **1** and **2**.

To change the setting, flip the brew selector switch to **2**. Locate the brew timer, inside the top cover. Rotate timer arrow to the right to increase the brew time, rotate to the left to decrease the brewing time. The indicator dial is normally set pointing at 25. This setting is intended to deliver one gallon of water (brew 24 cups) per brew cycle..



TROUBLE SHOOTING

PROBLEM: *WATER DOES NOT FLOW INTO HEATING TANK*

POSSIBLE CAUSE	SOLUTION
1. Water line turned off or filter clogged up.	Open the water line and make sure water flows to the brewer.
2. Water inlet valve coil burned out.	Turn off brewer. Disconnect wires from water inlet coil terminals and connect a power cord to the terminals. Plug cord into a 110v outlet and verify that water flow when plugged in and stops when cord is disconnected. If valve does not respond to this test, replace the valve.
3. Grounded probe.	When water in the heating tank is below the probe tip, yet water is not refilling, pull the wire off the probe terminal. If water starts flowing into the tank, find ground, clean or replace the probe.
4. Defective or burned out water level control board.	Pull the wire from the probe terminal. With a volt meter, check the voltage at the water inlet coil terminals. This should read 110 to 115 volts. If no voltage is present, check the water level control board. Make sure that the back of the board is grounded securely to the mounting bracket. Check for loose wire connections. Replace board.

PROBLEM: *WATER IN HEATING TANK OVERFLOWING*

POSSIBLE CAUSE	SOLUTION
5. Defective water inlet valve.	Turn power off and observe the water level in the heating tank. If water continues to flow in, clean or replace the valve.
6. Probe limed up.	Pull wire off from probe terminal. Touch the water tank shell with the terminal at the end of this wire. If water stops flowing, clean or replace the probe.
7. Loose or ungrounded water level control board.	If probe is okay, check the water level control board. The water level control board must be securely grounded. Check for loose connections. Check for voltage at the inlet valve terminals. Replace board.

PROBLEM: *WATER IN TANK DOES NOT GET HOT OR WATER TEMPERATURE TOO LOW*

POSSIBLE CAUSE	SOLUTION
8. Thermostat is off.	Check the thermostat to make sure it is in the ON position. Turn the thermostat stem clockwise until it stops.
9. Burned out heating element.	Check element for continuity and/or check with clamp ammeter. This should show a reading of approximately 15 amps. If no power is going through element, replace it.

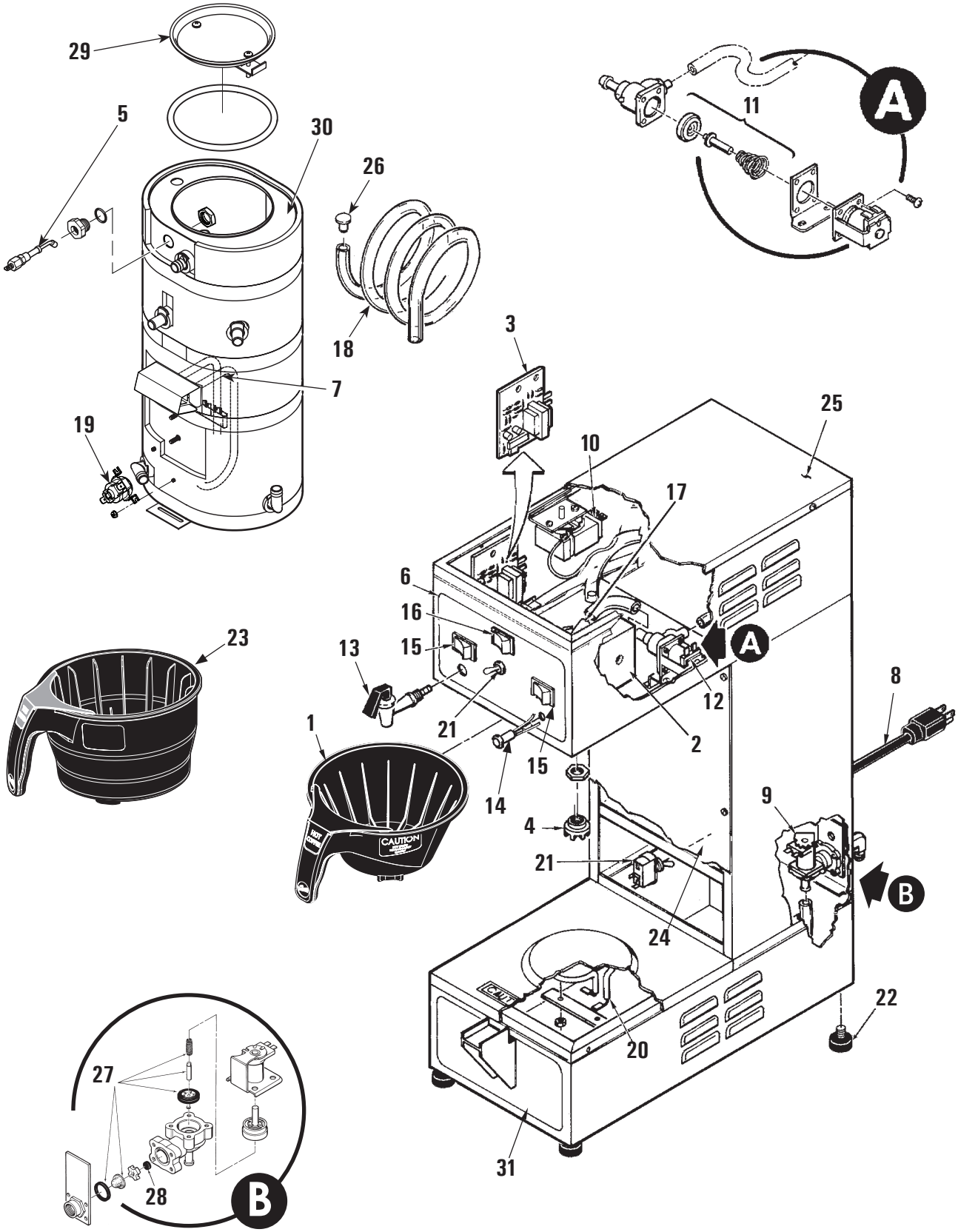
PROBLEM: *WATER IN TANK DOES NOT GET HOT OR WATER TEMPERATURE TOO LOW*

POSSIBLE CAUSE	SOLUTION
10. Defective thermostat.	Thermostat may be cutting off before the water temperature reaches operating temperature. Do not try to reset the thermostat. Replace it.

PROBLEM: *WATER NOT FLOWING FROM SPRAYHEAD.*

POSSIBLE CAUSE	SOLUTION
11. Water level is too low in heating tank.	Check water level in tank. If water is not flowing into the tank, review steps 1 thru 4, previous page.
12. Defective brew switch.	Check the continuity between terminals 5B and 4B when the BREW switch is pressed. If there is no continuity, replace the switch.
13. Defective timer.	Make sure the timer is receiving 110 to 120 volts. You can verify this by taking a reading with your meter at the end of the YELLOW wire on terminal **5B** of the ON/OFF switch and at terminal **9** of the timer. When the timer is activated by the brew switch, you should read 110 to 120 volts across terminals **8** and **9** of the timer. The RED wire on terminal **8** supplies power to open the dump valve. If no voltage is present, replace the timer.
14. Burned out dump valve coil.	If the timer works when the brew switch is pressed, then check the dump valve using a voltmeter on the terminals. If it shows 110 to 120 volts but no water flows through the valve, clean out the valve or replace the coil.

GEMINI 120A Parts List



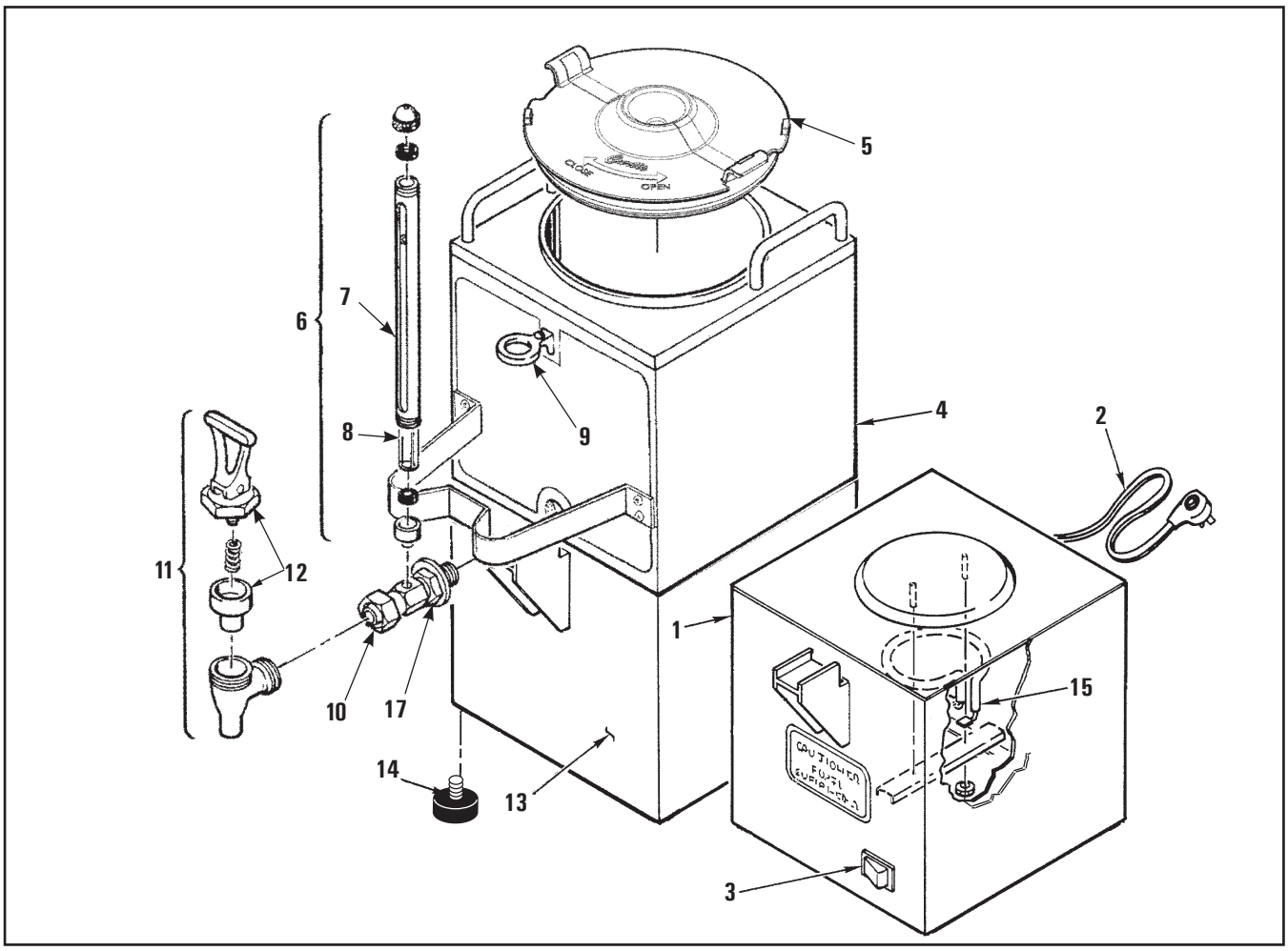
GEMINI 120A Parts List

ITEM №	PART №	DESCRIPTION
1	WC-3621-101	BREW CONE, UNIVERSAL 7.38"D.
2	WC- 603-101K-GEM	KIT, RETROFIT TIMER GEM120A 120V
3	WC-608-101K	KIT, LIQUID LEVEL CONTROL
4	WC-2936	SPRAYHEAD, RED (.131 DIA)
5	WC-5502-01	KIT, PROBE, ASSY WATER LEVEL W/HEX FITTING, O-RING & NUT
6	WC-3920-01	LABEL, SWITCH PANEL GEM120A CURTIS (NEWER UNITS)
6A	WC-3920T	LABEL, SW PANEL GEM-120A CURTIS (OLDER UNITS)
7	WC- 904-04	KIT,ELEMENT, HEATING 1.6KW120V W/JAM NUT & SILICONE WASHERS
7A	WC- 906-04	KIT, ELEMENT, HEATING 2KW 220V W/ JAM NUT & SILICONE WASHERS
8	WC-1200	POWER CORD, 6' 14/3 BLK SJTO
9	WC- 826L	VALVE, INLET 1 GPM 120V 10W ALP/AP/TLP YELLOW BODY
10	WC- 504	THERMOSTAT, CAPILLARY SPST 250V 25A GEM
11	WC-3763	KIT, VALVE REPAIR FOR WC-866, WC-889, WC-816, WC-817, WC-818
12	WC- 817	VALVE, DELTROL DUMP RIGHT 120V.
13	WC-1809	FAUCET, HOT WATER W/JAM NUT
14	WC- 207	LIGHT, BREW 115V GREEN
14A	WC- 203	LIGHT, BREW 220V
15	WC- 114R	SWITCH, ROCKER 120V RED
16	WC- 122	SWITCH, ROCKER BREW 120V GREEN
17	WC-2977-101K	KIT,SPRAYHEAD FITTING PLASTIC
18	WC-5310	TUBE, 5/16" I.D. SILICONE GEN USE
19	WC- 523	THERMOSTAT, MANUAL RESET 120/240 VAC 25A 220 DEG F MAX
19A	WC- 522	THERMOSTAT, HI LIMIT HEATER CONTROL DPST 277V 40A
20	WC- 970	ELEMENT, WARMER ASSY 100W 120V WITH SILICONE BOOTS
21	WC- 102	SWITCH, TOGGLE SPST 25A 125/250 VAC RESISTIVE
22	WC-3503	LEG, SCREW BUMPER 3/8-16 STD
23	WC-3338-101	BREW CONE,ASSY W/SPLASH POCKET NON-METAL DELUXE (OPTIONAL)
24	WC-5452	COVER, FRONT GEM-120A/120P/230A/200R/300IL/600ILD
25	WC-58117	COVER, TOP ALPGT/D500GT/D60GT TLP/TCTS/CBS/GEMSS
26	WC-43058	PLUG, TANK DRAIN ULTEM 1000F
27	WC-3765L	KIT, VALVE REPAIR USE ON WC-826/WC-826L/WC-847
28	WC- 829	WASHER, .35 GPM .5" USE ON WC-825
29	WC-37008	LID ASSEMBLY, TANK
30	WC-5466	TANK, COMPLETE GEM-120A 120V
30A	WC-54133	TANK, COMPLETE GEM-120A 120/220V DV
31	WC-3920B	LABEL, BOTTOM GEM-120A

PAPER FILTERS

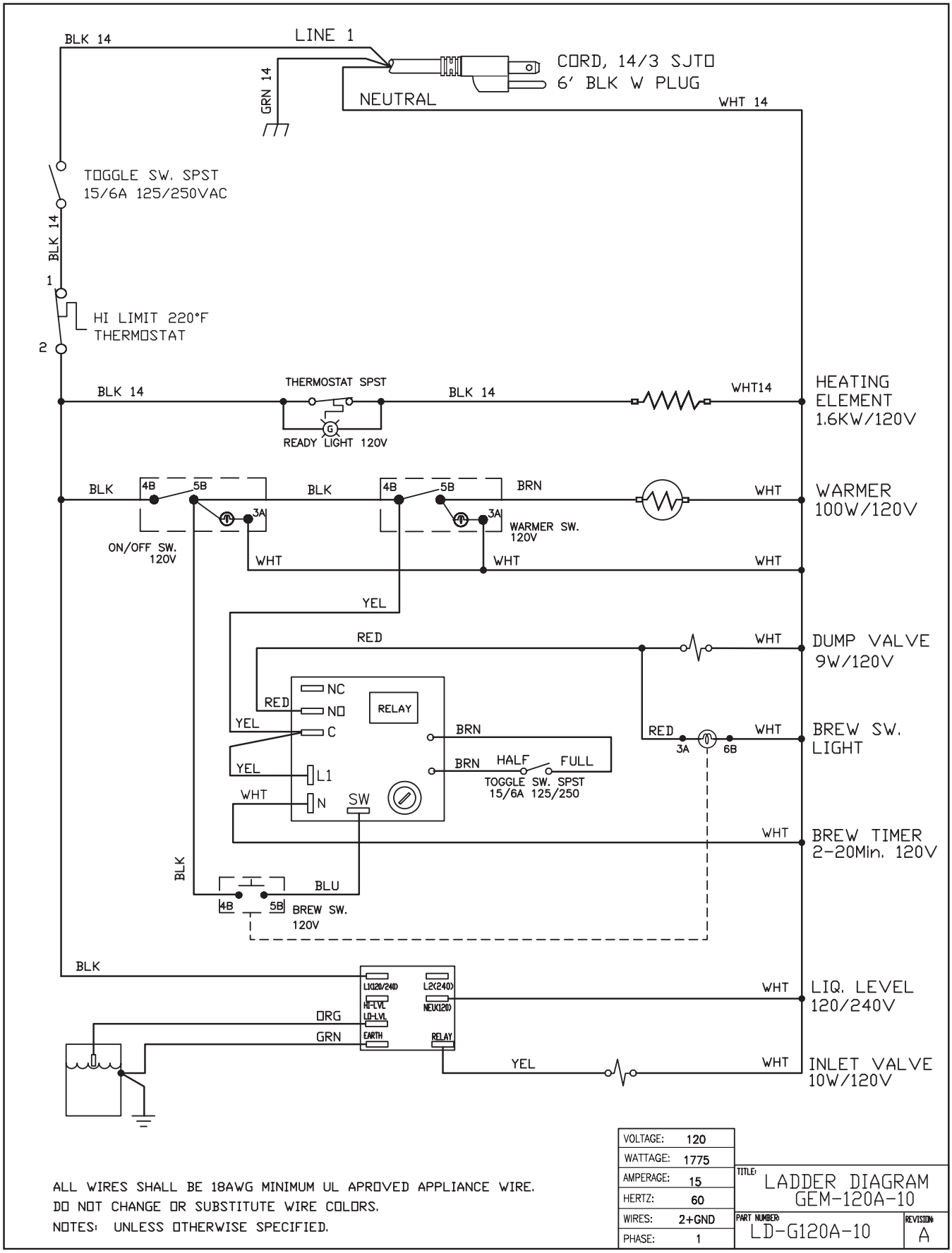
Part Number	Description
CR- 12	FILTER FOR BREW CONE WC-3338-101 (500/PKG)
CR- 10	FILTER FOR BREW CONE WC-3621-101 (1000/PKG)

ILLUSTRATED PARTS LIST GEM-3, 5, 8



INDEX Nº	PART Nº	DESCRIPTION
1	GEM-5	SATELLITE WARMER STAND,115V
2	WC-1201	POWER CORD 6' 18/3 BLK
3	WC- 114R	SWITCH, ROCKER 120V RED
4	GEM 3	SATELLITE SERVER 1½ GAL
5	WC-5622	LID, SATELLITE PLASTIC GEM3
6	WC-2102	GAUGE GLASS ASSEMBLY, 8" C
7	WC-2010C	SHIELD, 8 INCH GAUGE GLASS
8	WC-2025	GAUGE GLASS, 8 INCH
9	WC-2007	BRACKET, GAUGE GLASS FORMED
10	WC-1901	SHANK, FAUCET D&T CHROME
11	WC-1800	FAUCET S' NONLOCKING
11A	WC-1841	FAUCET, "ESP" BLACK NONLOCKING (OPTIONAL)
12	WC-3705	KIT FAUCET S' SERIES
13	GEM 4	SATELLITE STAND
14	WC-3503	LEG, SCREW BUMPER 3/8"-16 STD
15	WC-37102	KIT, WARMER ELEMENT 100W 120VAC

ELECTRICAL DIAGRAM – GEM120A-10



VOLTAGE:	120
WATTAGE:	1775
AMPERAGE:	15
HERTZ:	60
WIRES:	2+GND
PHASE:	1

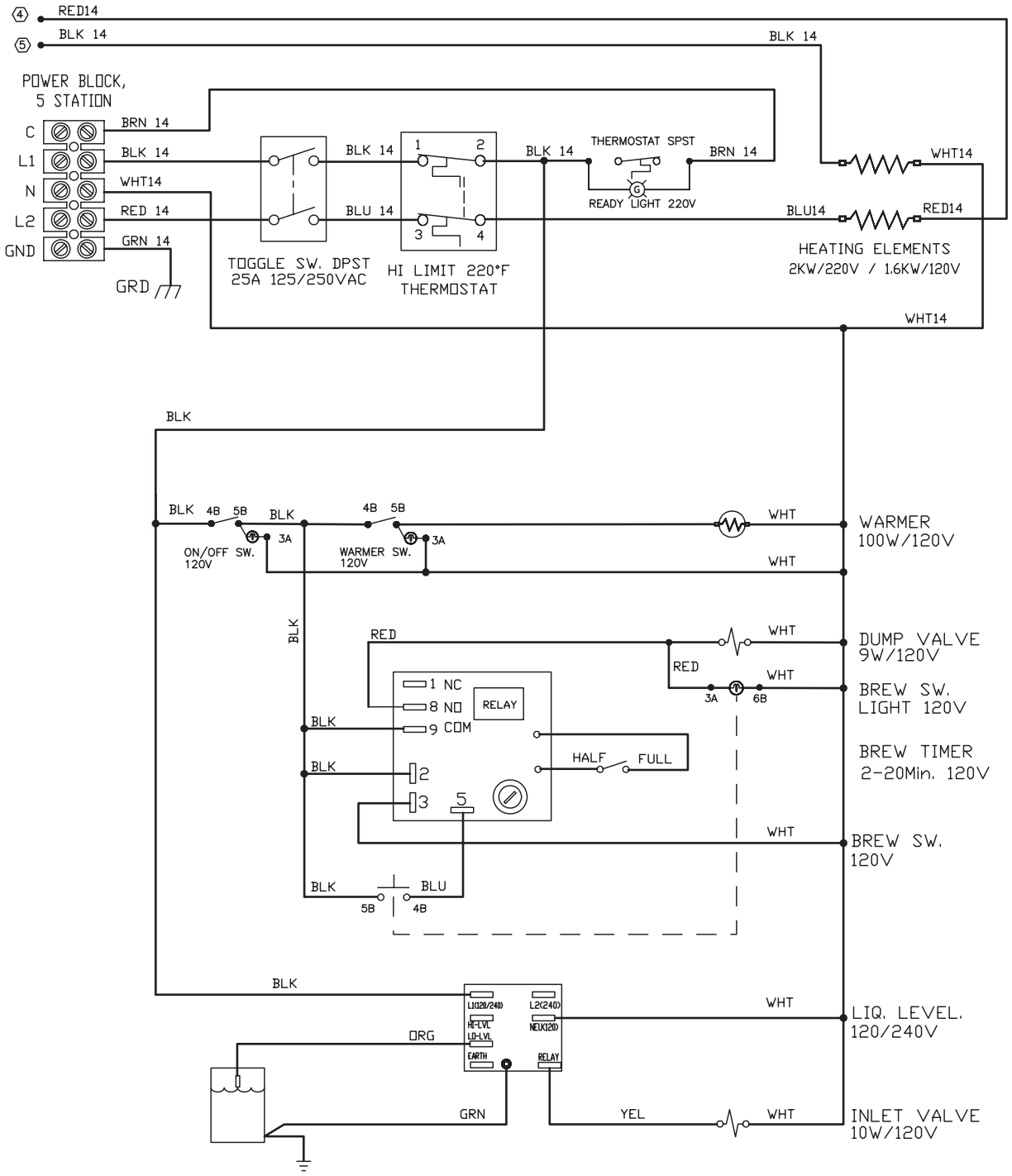
TITLE: LADDER DIAGRAM GEM-120A-10

PART NUMBER: LD-G120A-10

REVISION: A

ALL WIRES SHALL BE 18AWG MINIMUM UL APROVED APPLIANCE WIRE.
DO NOT CHANGE OR SUBSTITUTE WIRE COLORS.
NOTES: UNLESS OTHERWISE SPECIFIED.

ELECTRICAL DIAGRAM – GEM120A-63



6 USE THIS DIAGRAM FOR ALL OTHER MODELS WITH ADDED PREFIX LETTERS AND/OR DIFFERENT DASH NUMBER ON THEIR PART NUMBERS HAVING THE SAME ELECTRICAL RATINGS. Ex.: SCGEM–120A–63 and/or GEM–120A–63–01.

5 FOR 220VAC OPERATION: CONNECT RED14 WIRE TO POINT 'C' ON POWER BLOCK WC–314, CAP & STOW BLK14.

4 FOR 120VAC OPERATION: CONNECT BLK14 WIRE TO POINT 'C' ON POWER BLOCK WC–314, CAP & STOW RED14.

3 DO NOT CHANGE NOR SUBSTITUTE WIRE COLORS.

2 TEFLON WIRES 14 AWG MAY BE USED AS A SUBSTITUTE FOR THE 14 AWG APPLIANCE WIRE.

1 ALL WIRES SHALL BE 18 AWG UL APPROVED APPLIANCE WIRE.

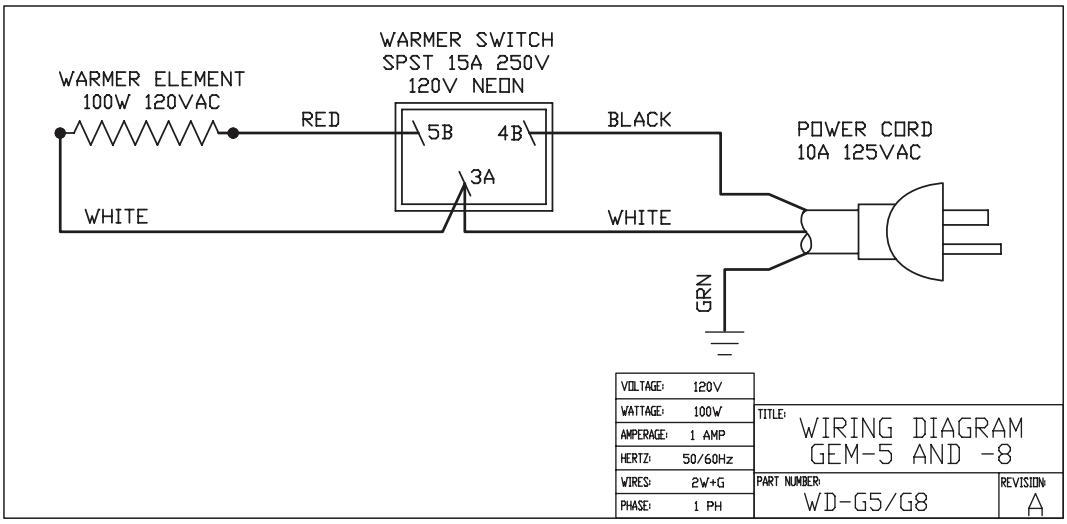
NOTES: unless otherwise specified

VOLTAGE:	120/220
WATTAGE:	1775/2100
AMPERAGE:	15/10
HERTZ:	60
WIRES:	2W/3W+GRD
PHASE:	1

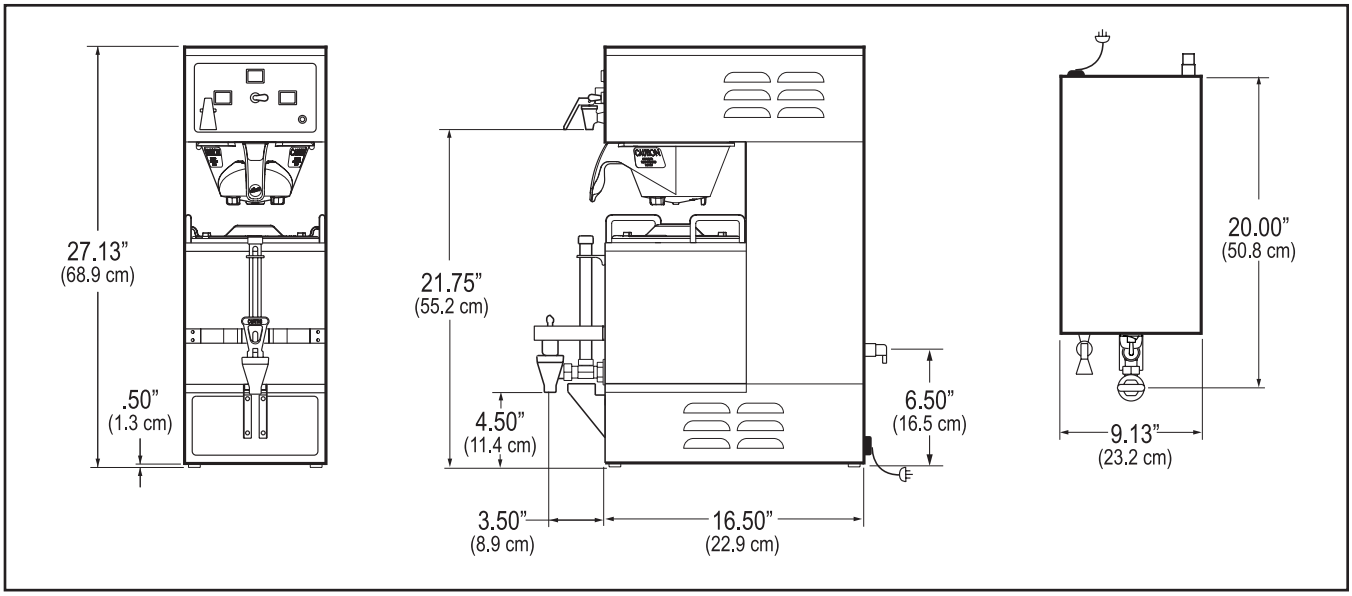
TITLE: LADDER DIAGRAM GEM–120A–63

PART NUMBER: LD–G120A–63 REV:NC

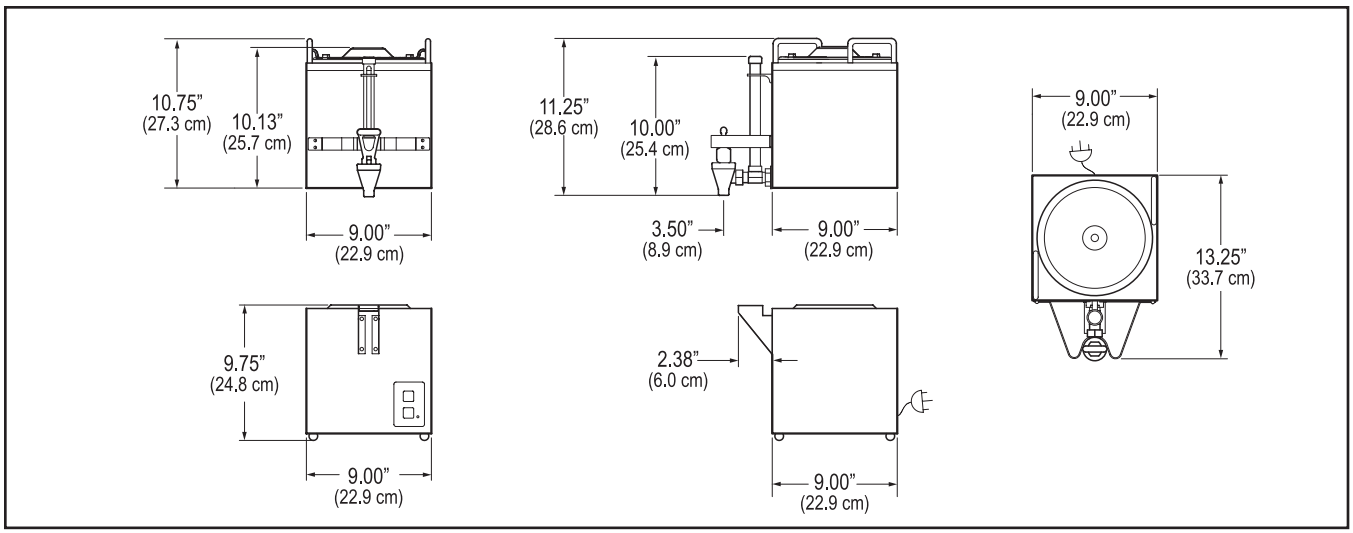
ELECTRICAL DIAGRAM GEM 5 & 8



ROUGH-IN DRAWING GEM-120A



ROUGH-IN DRAWING GEM-3 & GEM-5



Product Warranty Information

The Wilbur Curtis Company certifies that its products are free from defects in material and workmanship under normal use. The following limited warranties and conditions apply:

3 Years, Parts and Labor, from Original Date of Purchase on digital control boards**.**
2 Years, Parts, from Original Date of Purchase on all other electrical components, fittings and tubing.
1 Year, Labor, from Original Date of Purchase on all electrical components, fittings and tubing.

Additionally, the Wilbur Curtis Company warrants its Grinding Burrs for Forty (40) months from date of purchase or 40,000 pounds of coffee, whichever comes first. Stainless Steel components are warranted for two (2) years from date of purchase against leaking or pitting and replacement parts are warranted for ninety (90) days from date of purchase or for the remainder of the limited warranty period of the equipment in which the component is installed.
All in-warranty service calls must have prior authorization. For Authorization, call the Technical Support Department at 1-800-995-0417. Effective date of this policy is April 1, 2003.
Additional conditions may apply. Go to www.wilburcurtis.com to view the full product warranty information.

CONDITIONS & EXCEPTIONS

The warranty covers original equipment at time of purchase only. The Wilbur Curtis Company, Inc., assumes no responsibility for substitute replacement parts installed on Curtis equipment that have not been purchased from the
Wilbur Curtis Company, Inc. The Wilbur Curtis Company will not accept any responsibility if the following conditions are not met. The warranty does not cover and is void under the following circumstances:

1) **Improper operation of equipment:** *The equipment must be used for its designed and intended purpose and function.*
2) **Improper installation of equipment:** *This equipment must be installed by a professional technician and must comply with all local electrical, mechanical and plumbing codes.*
3) **Improper voltage:** *Equipment must be installed at the voltage stated on the serial plate supplied with this equipment.*
4) **Improper water supply:** *This includes, but is not limited to, excessive or low water pressure, and inadequate or fluctuating water flow rate.*
5) **Adjustments and cleaning:** *The resetting of safety thermostats and circuit breakers, programming and temperature adjustments are the responsibility of the equipment owner. The owner is responsible for proper cleaning and regular maintenance of this equipment.*
6) **Damaged in transit:** *Equipment damaged in transit is the responsibility of the freight company and a claim should be made with the carrier.*
7) **Abuse or neglect (including failure to periodically clean or remove lime accumulations):** *Manufacturer is not responsible for variation in equipment operation due to excessive lime or local water conditions. The equipment must be maintained according to the manufacturer's recommendations.*
8) **Replacement of items subject to normal use and wear:** *This shall include, but is not limited to, light bulbs, shear disks, "0" rings, gaskets, silicone tube, canister assemblies, whipper chambers and plates, mixing bowls, agitation assemblies and whipper propellers.*
9) **Repairs and/or Replacements** *are subject to our decision that the workmanship or parts were faulty and the defects showed up under normal use. All labor shall be performed during regular working hours. Overtime charges are the responsibility of the owner. Charges incurred by delays, waiting time, or operating restrictions that hinder the service technician's ability to perform service is the responsibility of the owner of the equipment. This includes institutional and correctional facilities. The Wilbur Curtis Company will allow up to 100 miles, round trip, per in-warranty service call.*

RETURN MERCHANDISE AUTHORIZATION: *All claims under this warranty must be submitted to the Wilbur Curtis Company Technical Support Department prior to performing any repair work or return of this equipment to the factory. All returned equipment must be repackaged properly in the original carton. No units will be accepted if they are damaged in transit due to improper packaging.* **NO UNITS OR PARTS WILL BE ACCEPTED WITHOUT A RETURN MERCHANDISE AUTHORIZATION (RMA). RMA NUMBER MUST BE MARKED ON THE CARTON OR SHIPPING LABEL.** All in-warranty service calls must be performed by an authorized service agent. Call the Wilbur Curtis Technical Support Department to find an agent near you.

ECN 15040 . rev J 6/5/13@15.6

WILBUR CURTIS CO., INC.
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